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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/090,946	03/05/2002	Hideyuki Motoyama	FUJI 19.494	6413

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EXAMINER	
TAYLOR, BARRY W	

ART UNIT	PAPER NUMBER
2643	5

DATE MAILED: 08/23/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/090,946	MOTOYAMA ET AL.	
	Examiner	Art Unit	
	Barry W Taylor	2643	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *04 June 2004*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-16* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-16* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

1. Claims 1-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Suonsivu et al (6,542,581 hereinafter Suonsivu) in view of Kao et al (6,292,515 hereinafter Kao).

Regarding claims 1 and 9. Suonsivu teaches a DSL communication method for interconnecting a user and a center (see figure 2) comprising:

monitoring a signal-to-noise ratio of an accepted DSL (see figure 3 wherein step 3 "get S/N" reads on monitoring signal-to-noise);

judging whether or not the S/N ratio is within a predetermined range. See figure 3 wherein system reference values are first established (i.e. step 1 establishes S/N reference value that the measured S/N value measured in step 3 is not allowed to fall below), next figure 3 shows judging (i.e. step 4) wherein "get S/N" obtained from step 3 is compared to system reference value S/N ref.

Suonsivu does not explicitly show interrupting the intercommunication once the and thereafter reconnecting the user and center, when the S/N is judged not to be within the predetermined range for a duration longer than a reference time. However, Suonsivu discloses adjusting power level to achieve desired transmission quality for predetermined time (see "Wait" period step 8 figure 3).

Kao also teaches a DSL communication system and method wherein the system can select a first or second adaptation routine to handle changes in bit and gain loadings of DSL protocol (abstract). Kao discloses using a fine tune process that is adaptable and flexible enough to be used in conjunction with standard modem initialization (col. 6 lines 54-58). In other words, Kao provides for real time, adaptive, high-speed communications system which, even after initialization, continues to dynamically alter transmission parameters (col. 5 lines 24-34, col. 6 lines 26-31, col. 15 line 45 – co. 16 line 67). Kao discloses an iteration criteria parameter can be implemented so that the number of iterations or total timeout period can be controlled (col. 7 lines 43-67). Kao further discloses bit and gain routine allows for fine-tuning the system best suited for particular needs (col. 8 lines 9-20). Kao discloses using an

adaptive compensation allowing for adjustments after modem initialization (col. 15 line 45 – col. 16 line 67). Kao invention allows for faster setup and adjustment times (columns 19-20).

It would have been obvious for any one of ordinary skill in the art at the time of invention to modify the invention as taught by Suonsivu to use adaptation routine as taught by Kao for the benefit of quickly achieving data transfer mode.

Regarding claims 2 and 10. Claims 2 and 10 do not contain any additional features, which, in combination with the features of claims 1 and 9 would lead to a novel subject matter. The Examiner notes that setting upper and lower limit for a predetermined or target operating range, as defined in claims 2 and 10, would be an obvious measure to a person with ordinary skill in the art. Furthermore, Suonsivu sets an operating range for S/N (see figure 3 and col. 5 lines 31-37).

Regarding claims 3-4 and 11-12. Suonsivu shows arbitrarily setting delay time (see delay time step 8 figure 3).

Regarding claims 5-6 and 13-14. Suonsivu does not show first time for S/N above reference value and second time used for S/N below reference value wherein first and second times are same.

Kao also teaches a DSL communication system and method wherein the system can select a first or second adaptation routine to handle changes in bit and gain loadings of DSL protocol (abstract). Kao discloses using a fine tune process that is

adaptable and flexible enough to be used in conjunction with standard modem initialization (col. 6 lines 54-58). In other words, Kao provides for real time, adaptive, high-speed communications system which, even after initialization, continues to dynamically alter transmission parameters (col. 5 lines 24-34, col. 6 lines 26-31, col. 15 line 45 – co. 16 line 67). Kao discloses an iteration criteria parameter can be implemented so that the number of iterations or total timeout period can be controlled (col. 7 lines 43-67). Kao further discloses bit and gain routine allows for fine-tuning the system best suited for particular needs (col. 8 lines 9-20). Kao discloses using an adaptive compensation allowing for adjustments after modem initialization (col. 15 line 45 – col. 16 line 67). Kao invention allows for faster setup and adjustment times (columns 19-20).

It would have been obvious for any one of ordinary skill in the art at the time of invention to modify the invention as taught by Suonsivu to use adaptation routine as taught by Kao for the benefit of quickly achieving data transfer mode.

Regarding claims 7-8 and 15-16. Suonsivu does not show first time for S/N above reference value and second time used for S/N below reference value wherein first and second times are different.

Kao also teaches a DSL communication system and method wherein the system can select a first or second adaptation routine to handle changes in bit and gain loadings of DSL protocol (abstract). Kao discloses using a fine tune process that is adaptable and flexible enough to be used in conjunction with standard modem initialization (col. 6 lines 54-58). In other words, Kao provides for real time, adaptive,

high-speed communications system which, even after initialization, continues to dynamically alter transmission parameters (col. 5 lines 24-34, col. 6 lines 26-31, col. 15 line 45 – co. 16 line 67). Kao discloses an iteration criteria parameter can be implemented so that the number of iterations or total timeout period can be controlled (col. 7 lines 43-67). Kao further discloses bit and gain routine allows for fine-tuning the system best suited for particular needs (col. 8 lines 9-20). Kao discloses using an adaptive compensation allowing for adjustments after modem initialization (col. 15 line 45 – col. 16 line 67). Kao invention allows for faster setup and adjustment times (columns 19-20).

It would have been obvious for any one of ordinary skill in the art at the time of invention to modify the invention as taught by Suonsivu to use adaptation routine as taught by Kao for the benefit of quickly achieving data transfer mode.

Response to Arguments

2. Applicant's arguments filed 6/4/2004 have been fully considered but they are not persuasive.

a) Applicant's argue (middle of page 7, paper number 4, Amendment "A", dated 6/4/2004) that Applicant's claimed approach simplifies prior art approaches in which dynamic rate adaptation countermeasures are used (see, e.g., pages 1, 2 of Applicants' specification).

The Examiner has reviewed Applicants' specification pages 1 and 2 but can not find what or how Applicants' improve on prior art. It appears Applicants' invention is

directed towards finding solution to the problem of interconnecting DSL devices of different vendors (see Applicants' specification page 2 lines 20-22). However, after further review of Applicants' specification, it appears Applicants' improve on prior art by using some sort of function (see "showtime function" found in Applicants' specification page 6 lines 4-6) that performs intercommunication after the establishment of standard handshaking and initialization function normally preformed in prior art. Suonsivu discloses adjusting power level to achieve desired transmission quality for predetermined time (see "Wait" period step 8 figure 3). However, Suonsivu does not explicitly show interrupting the intercommunication once the and thereafter reconnecting the user and center, when the S/N is judged not to be within the predetermined range for a duration longer than a reference time.

Kao also teaches a DSL communication system and method wherein the system can select a first or second adaptation routine to handle changes in bit and gain loadings of DSL protocol (abstract). Kao discloses using a fine tune process that is adaptable and flexible enough to be used in conjunction with standard modem initialization (col. 6 lines 54-58). In other words, Kao provides for real time, adaptive, high-speed communications system, which **even after initialization**, continues to dynamically alter transmission parameters (col. 5 lines 24-34, col. 6 lines 26-31, col. 15 line 45 – co. 16 line 67). Kao discloses an iteration criteria parameter can be implemented so that the number of iterations or total timeout period can be controlled (col. 7 lines 43-67). Kao further discloses bit and gain routine allows for fine-tuning the system best suited for particular needs (col. 8 lines 9-20). Kao discloses using an

adaptive compensation allowing for adjustments after modem initialization (col. 15 line 45 – col. 16 line 67). Kao invention allows for faster setup and adjustment times (columns 19-20).

It would have been obvious for any one of ordinary skill in the art at the time of invention to modify the invention as taught by Suonsivu to use adaptation routine as taught by Kao for the benefit of quickly achieving data transfer mode.

b) Applicants' argue that Suonsivu does not suggest or disclose determining whether SNR exceeds a threshold value for a duration longer than a reference time (see bottom of page 7 continuing to top of page 8, paper number 4, dated 6/4/2004).

Suonsivu abstract reveals controlling transmission power and quality for a given time interval. Suonsivu figure 3 (see last step) reveals using "Wait" period used to make sure the SNR reference value is not allowed to fall below. Suonsivu figure 4 also shows using "Wait" period. Suonsivu also discloses prior art (see column 2) attempts of maintaining SNR for because some subscriber lines are different than others, which requires dynamically adjusting. In fact, column 2 lines 59-67 reveal prior art technique of changing transmission power **is preformed by successively powered off and on to recover due to trouble of telephone line** when SNR not within predetermined limit which also reads on Applicants' general claim language.

Kao also teaches a DSL communication system and method wherein the system can select a first or second adaptation routine to handle changes in bit and gain loadings of DSL protocol (abstract). Kao discloses using a fine tune process that is

adaptable and flexible enough to be used in conjunction with standard modem initialization (col. 6 lines 54-58). In other words, Kao provides for real time, adaptive, high-speed communications system, which, **even after initialization**, continues to dynamically alter transmission parameters (col. 5 lines 24-34, col. 6 lines 26-31, col. 15 line 45 – co. 16 line 67). Kao discloses an iteration criteria parameter can be implemented so that the **number of iterations or total timeout period can be controlled** (col. 7 lines 43-67). Kao further discloses bit and gain routine allows for fine-tuning the system best suited for particular needs (**col. 8 lines 9-20**). Kao discloses using an adaptive compensation allowing for adjustments after modem initialization (col. 15 line 45 – col. 16 line 67). Kao invention allows for faster setup and adjustment times (columns 19-20).

It would have been obvious for any one of ordinary skill in the art at the time of invention to modify the invention as taught by Suonsivu to use adaptation routine as taught by Kao for the benefit of quickly achieving data transfer mode.

c) Applicants' further argue that Kao approach is similar to the complex adaptive negotiation methods discussed by Applicants as part of the prior art (see page 8, lines 5-15).

Suonsivu invention is directed towards controlling transmission power in a flexible manner by using "given time interval" and Kao also provides for flexible power control even after the initialization period and is flexible enough to be used in conjunction with a variety of initial channel transmission and loading processes.

d) In summation, Applicants' generally refer to prior art when comparing the Kao and Suonsivu reference (see Applicants' remarks on pages 7 and 8). However, After careful review of Applicants' specification, it appears the "interrupting said intercommunication" (see Applicants' general independent claim language in claims 1 and 9) is nothing more than some sort of "showtime" function routine used to adjust SNR after conventional initialization routine.

Kao teaches a DSL communication system and method wherein the system can select a first or second adaptation routine to handle changes in bit and gain loadings of DSL protocol (abstract). Kao discloses using a fine tune process that is adaptable and flexible enough to be used in conjunction with standard modem initialization (col. 6 lines 54-58). In other words, Kao provides for real time, adaptive, high-speed communications system, which, **even after initialization**, continues to dynamically alter transmission parameters (col. 5 lines 24-34, col. 6 lines 26-31, col. 15 line 45 – co. 16 line 67). Kao discloses an iteration criteria parameter can be implemented so that the **number of iterations or total timeout period can be controlled** (col. 7 lines 43-67). Kao further discloses bit and gain routine allows for fine-tuning the system best suited for particular needs (**col. 8 lines 9-20**). Kao discloses using an adaptive compensation allowing for adjustments after modem initialization (col. 15 line 45 – col. 16 line 67). Kao invention allows for faster setup and adjustment times (columns 19-20).

e) To further support Examiner's position and to assist Applicants' in future responses regarding conventional routines used in conjunction with initialization routines, please see conclusion section listed directly below (i.e. Section "3.").

Conclusion

3. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

---(6,356,585) Ko et al teaches controlling SNR wherein SNR is consistently checked and if SNR are above a certain threshold the modem enters routine (jump to routine 504 figure 5) and when SNR are below certain threshold the modem enters another routine (see jump to routine 506 figure 5) before returning to data mode 502 figure 5).

---(6,628,754) Murphy et al also uses the term "Showtime" (see at least line 15 of abstract) to dynamically adjust SNR. The only difference is that Murphy uses upper case "S" verses Applicants' use of lower case "s" (see Applicants' specification page 6 line 4 wherein "showtime" appears in lower case).

4. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not

mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Barry W Taylor whose telephone number is (703) 305-4811. The examiner can normally be reached on Monday-Friday from 6:30am to 4pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Curtis Kuntz can be reached on (703) 305-4708. The fax phone number for this Group is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to Technology Center 2600 customer service Office whose telephone number is (703) 306-0377.

CURTIS KUNTZ
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600